



DEPARTMENT OF THE NAVY

PUGET SOUND NAVAL SHIPYARD
AND INTERMEDIATE MAINTENANCE FACILITY
1400 FARRAGUT AVENUE
BREMERTON WASHINGTON 98314-5001

IN REPLY REFER TO

5090

Ser 106.32/055

MAR 14 2016

Mr. Chae Park
U.S. Environmental Protection Agency
Region 10 (OCE-101)
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

MAR 15 2016

Dear Mr. Park:

This letter is in response to the Environmental Protection Agency (EPA) warning letter issued on February 2, 2016 in regards to the EPA inspection of Puget Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS & IMF), Bremerton site conducted on September 23, 2015.

a. Violation 1 (Violations of the total recoverable copper limit). As noted in the warning letter, this issue is being addressed through the 2013 Federal Facilities Compliance Agreement.

b. Violation 2 (Unauthorized discharges of sanitary wastewater originating from Building 457). This issue was corrected on June 3, 2015, as noted in PSNS&IMF ltr 5090 Ser 106.32/0110 of 8 Jun 15.

(1) Stricter requirements have been implemented to prevent new cross connections from occurring during facility construction and repair projects. This includes revised project checklists and contract specifications that require government verification of proper hook-up (e.g., dye testing) for all new or repaired connections to the storm and sanitary sewer systems before backfilling. Training of appropriate personnel has been completed.

(2) Naval Base (NAVBASE) Kitsap anticipates receiving a Municipal Separate Storm Sewer System (MS4) Permit for NAVBASE Kitsap - Bremerton in the near future. To prepare for the foreseeable MS4 permit conditions, the Navy anticipates completion of a site-wide Illicit Discharge, Detection, and Elimination (IDDE) Plan by July 2016. This plan will supplement a larger stormwater management plan that will be required under the MS4 permit. The purpose of the IDDE plan is to formalize a

program to systematically detect and eliminate illicit discharges to the NAVBASE Kitsap - Bremerton storm system and receiving waters.

c. Area of concern. (Building 944 where storm water run-on could come into contact with the stored hazardous waste)

(1) PSNS & IMF considers the potential for storm water run-on to come into contact with stored hazardous waste to be appropriately mitigated in the current configuration and in compliance with Section III of the permit.

(2) The EPA inspector documented Building 944 as an area of concern where stormwater run-on could come into contact with the stored hazardous waste. Section III.D.6.a. of the National Pollutant Discharge Elimination System (NPDES) Permit states:

"In areas where Section 313 water priority chemicals are stored, processed or otherwise handled, appropriate containment, drainage control and/or diversionary structures shall be provided. At a minimum, one of the following preventive systems or its equivalent shall be used: (1) Curbing, culverting, gutters, sewers, or other forms of drainage control to prevent or minimize the potential for storm water run-on to come into contact with significant sources of pollutants; or (2) Roofs, covers or other forms of appropriate protection to prevent storage piles from exposure to storm water, and wind."

(3) PSNS & IMF has multiple controls in place to minimize the exposure of stormwater to the stored hazardous waste as required in NPDES Permit WA-000206-2. These controls serve as stormwater best management practices as identified in the EPA Industrial Stormwater Fact Sheet series, "Sector K: Hazardous Waste Treatment, Storage, or Disposal Facilities." These standards include a covered storage area, liquid hazardous substances stored on spill pallets, and routine inspections. This is managed as a 90 day area which complies with WAC 173-303-200(b)(i) for accumulating dangerous waste on-site and 173-303-630 for use and management of containers.

(4) Additionally, measures are in place that ensure potential spills will not be released to the storm drain. A standard operating procedure gives direction to the employees

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managing the area to ensure no pollutants are discharged to the storm drain. These directions include inspecting the facility for any spills before emptying the stormwater tank, shutting off the breaker to inactivate the sump pumps while draining the tank, and actions to take if there was a spill that contaminated the stormwater tank. In light of this inspection, further steps were taken to review the instruction and the area of concern. Also, employees at Building 944 are trained upon arrival and annually on proper draining procedures. Finally, there is no history of spills or releases from accumulated containers.

Questions or comments regarding this information may be addressed to Ms. Michelle Aylward, Code 106.32 at (360) 476-0118.

Sincerely,

A handwritten signature in blue ink, appearing to read "S. E. McKee", is written over the typed name.

S. E. McKEE

Head, Environmental Division
Environmental, Safety and
Health Office

By direction of the
Shipyard Commander



DEPARTMENT OF THE NAVY
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AND INTERMEDIATE MAINTENANCE FACILITY
1400 FARRAGUT AVENUE
BREMERTON, WASHINGTON 98314-5001

IN REPLY REFER TO:

5090.7
Ser 107/066

JUL 07 2009

Mr. Chae Park
NPDES Compliance Unit
OCE-133
Office of Compliance and Enforcement
US EPA - Region 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

Dear Mr. Park:

SUBJECT: NOTICE OF COMPLETION OF COMPLIANCE ACTIVITIES
FFCA NO. CWA-10-2009-0167

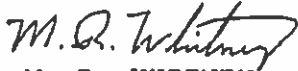
This letter is to inform you that all compliance activities required under the above referenced Federal Facilities Compliance Agreement between EPA and the Puget Sound Naval Shipyard and Intermediate Maintenance Facility signed in May of 2009 (Agreement) have been fully completed. As reflected in the Discharge Monitoring Reports submitted by the Puget Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS & IMF) between August, 2008 and May, 2009, we have achieved 10 months of continuous compliance.

The only requirement of the Agreement not completed as of the date of signature was instituting an improved cleaning process for active dry docks as required in paragraph 18 of the Agreement. With enclosure (1), PSNS & IMF completed this final action. The key factor in the new plan is the timing of releasing cooling water to the floor of the dock, something which required some significant commitments for carrier projects. With this complete, PSNS & IMF has satisfied all requirements of the Agreement, and we are happy to report that this matter can be closed. I appreciate the professional and helpful manner in which your staff worked with PSNS & IMF.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly

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responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.



M. R. WHITNEY

Captain, U.S. Navy

Commander

Puget Sound Naval Shipyard & Intermediate Maintenance
Facility

Enclosure: ESH Technical Guidance

Blind Copy: C/106 Leslie Cole

ESH TECHNICAL GUIDANCE

REF: PSNS & IMF OSH Manual

.NG CODE/SHOP	INITIALED		ORIGINATOR Bruce Beckwith	CODE 106.32	DATE 4/3/2009
	BY	DATE			
106.32	GS	4/3	SUBJECT Dry Dock Cleaning Best Management Practices	COPY TO: C/ 106.ESH, ESHTG MGR., C/106.32, C/980, S/99, C/900P C/120, C/300, C/300N, C/312,C/392, C/107	REMARKS 3-09-31-34
106.32	GS	4/3			
106.3	SR	4/3			
ESHTG MGR C/106.23	RD	4/3	SERIAL #:		
106.02 (distrib)	CL	4/6/09	PURPOSE OF GUIDANCE (CHECK ONE):		
			1. CLARIFICATION OF EXISTING SHIPYARD INSTRUCTIONS. <input type="checkbox"/>		
			2. NOT COVERED IN EXISTING SHIPYARD INSTRUCTIONS. <input checked="" type="checkbox"/>		
TEMPORARY GUIDANCE VALID FOR ONE YEAR FROM ISSUE DATE					

REQUESTING SHOP/CODE: NA

PHONE:

SHOP/CODE POC: NA

REFERENCES:

QUESTION/PROBLEM:

b of 2008, PSNS&IMF received an NOV from the EPA for exceedances of dry dock copper discharge limits. In response to the NOV, PSNS&IMF is required to implement corrective actions that will bring our facility into compliance. Meeting our current discharge limits requires that we change the Best Management Practices (BMPs) for dry dock cleaning.

GUIDANCE:

Starting immediately, all dry dock projects must comply with the attached BMPs. These BMPs will be incorporated in the next change to PSNS&IMFINST P5090.30. The attached BMPs add or change the following requirements:

- 1) Each project is now required to have a dry dock cleaning crew inspect the dry dock weekly and clean as necessary [DD-BMP 1 (2)].
- 2) Following dewatering at the beginning of the docking period, the project must divert vessel cooling water so that it does not discharge onto the dock floor [DD-BMP 1 (4)(a)] within seven days.
- 3) At all other times the dock floor must be cleaned and inspected prior to discharging vessel cooling water onto the dock floor [DD-BMP 1 (3)].
- 4) Because dumping cooling water to the dry dock floor requires that the Process Water Collection System be taken off line, projects must delay dumping cooling water to the dry dock floor to as close as possible to undocking.

REVIEWED BY:

SRupp C/106.3

DATE:

4/3/09

IS 5100/644 (REV 3-09)

Enclosure

**WATER POLLUTION PREVENTION BEST MANAGEMENT PRACTICES (BMP)
BMPs SPECIFIC TO DRY DOCKS**

DD-BMP 1 DRY DOCK CLEANING

- 1) Worker Cleaning: Personnel working in the dry dock shall remove all visible dirt and debris from their work areas at the end of each shift.
- 2) Project Cleaning: Each project shall have a cleaning crew assigned to maintain the overall cleanliness of the dry dock. This cleaning crew will inspect the dry dock weekly and clean any visible buildup of dirt and debris. The inspection will include the dock floor, troughs, and sediment traps. The cleaning crew will use the appropriate tools including vacuums, sweepers, floor scrubbers, pressure washers, etc. as outlined IEI 248.37. Wet methods of cleaning (pressure washing or fire hosing) require the approval of Code 106.3.
- 3) Pre-Flood/Pre Cooling Water Dump Cleaning: At the end of a project and before any discharge of vessel cooling water to the dock floor, the dock shall be thoroughly cleaned and inspected per IEI 248.37. Portions of the dock floor can be cleaned and approved for discharging cooling water, but only if cooling water draining from that section of floor is aligned to bypass the Process Water Collection System (PWCS).
 - (a) Because dumping cooling water to the dry dock floor requires that the process water collection system be taken off line, project must delay dumping cooling water to the dry dock floor to as close as possible to undocking.
 - (b) Sweep, vacuum, and/or shovel to remove the majority of debris from the dock floor. Prior to flooding or dumping cooling water on to the dock floor, pressure-wash or fire hose the dock floor, troughs, and keel blocks. Wastewater generated must be collected and treated.
 - (c) Remove any remaining material from troughs.
 - (d) Dewater and remove accumulated sediment from traps.
 - (e) Code 106.3 will inspect the dock to determine that the cleanliness of the dock is acceptable before discharging cooling water to the dock or flooding the dock. Approval for flooding will be documented by signing the dry dock flooding prerequisite list.
- 4) Post-Flood Cleaning: Following dewatering the dock may need to be cleaned based on the amount of bay silt deposited in the dock, the capabilities of the PWCS and the requirements of the project. Following dewatering prior to industrial work, the PWCS shall be placed in automatic as soon as possible. Before the PWCS can be placed on-line, vessel cooling water must be routed to the drainage system by installing hull adapters and hoses.
 - (a) Reroute cooling water from vessel sea chests to the dry dock drainage system within seven days of docking and before starting any industrial work that could put waste on the dock floor including pressure washing of the hull, cutting, blasting, etc.
 - (b) The PWCS can be used in automatic mode to collect hull and floor washdown water using a fire hose with Code 106.3 approval and if the PWCS can discharge water to the bay, sewer, or tank based on turbidity.



C-2

Cover

DEPARTMENT OF THE NAVY

PUGET SOUND NAVAL SHIPYARD
AND INTERMEDIATE MAINTENANCE FACILITY
1400 FARRAGUT AVENUE
BREMERTON, WASHINGTON 98314-5001

IN REPLY REFER TO:

5090.7-4

Ser 106.32/0097

MAR 14 2008

Mr. Michael A. Bussell
U.S. Environmental Protection Agency
Region 10
Office of Compliance and Enforcement
1200 Sixth Avenue (OCE-164)
Seattle, WA 98101



Dear Mr. Bussell:

On February 21, 2008 we received a Notice of Violation (Notice) issued under the Clean Water Act, 33 U.S.C. §§1251 et seq. This Notice was issued for exceeding effluent limitations of our National Pollutant Discharge Elimination System (NPDES) permit. The Navy and the Puget Sound Naval Shipyard and Intermediate Facility (PSNS & IMF) take compliance with environmental permits, and our duty to be good stewards of the environment, very seriously. As you would expect, long before we received your Notice, my staff has been investigating root causes and developing solutions to this difficult problem. This letter is our written response describing the efforts that we have, or will make, to correct these NPDES violations as required by your Notice.

The exceedances listed in this Notice are from two different types of operations. Five of the exceedances were from Outfall 021. This outfall is the treated effluent from our steam plant's wastewater treatment plant. The other 56 exceedances are from the PSNS & IMF dry-dock drainage systems.

The exceedances from the steam plant at Outfall 021 were caused by equipment failure (e.g., pH detector) and in some cases maintenance problems. Each of these exceedances were independent and the root causes have been corrected by replacing equipment and increasing management oversight of maintenance practices. We have educated the Navy Command responsible for maintenance of this facility about the direct effect their maintenance and operation of this facility has on permit compliance and the environment. As a result, we believe that our corrective actions are adequate and the possibility of a reoccurrence is minimal.

MAR 14 2008

Correcting the exceedances from our dry docks presents a bigger challenge. We received a previous Notice of Violation for exceedances of our copper discharge limits in May of 1999. At that time, the majority of our exceedances were exceedances of concentration far above that allowed by our permit. When we received the 1999 Notice, PSNS & IMF was in the process of installing new technology, our process water collection system (PWCS), in each of our dry docks. In order to resolve the 1999 Notice, PSNS & IMF committed to completing the installation of the PWCS and implementing procedures to minimize the contribution of the copper in bay silt to our permitted discharges.

These actions, along with upgrades to the control logic of our PWCS, constant efforts to improve source-control, and dry-dock cleaning significantly reduced the number and magnitude of these exceedances. In fact, in Calendar Year (CY) 2002 we had no exceedances of monthly limits and only one sample that exceeded a maximum daily limit. Enclosure (1) contains a list of the best management practices that we have had in place since CY 2000. Many of these practices involve very substantial investments in terms of time and money demonstrating our commitment to solving this difficult problem.

Even given these improvements we have seen a steady increase in the number of exceedances since 2002. This increase is a result of changes in the type and quantity of work occurring at PSNS & IMF. The most significant change has been a substantial increase in the number of vessel overhauls. Increasing the number of overhauls has several effects including; increased volume of vessel cooling-water added to our dry dock drainage effluent, increased painting and blasting of copper antifouling paints, and increased quantities of copper-bearing silt being introduced to our dry docks due to the increased number of docking and un-dockings. In particular, the increased volume of effluent has made it difficult to comply with our copper loading limits. The loading limits in our current permit were calculated based on our operations prior to 1994 and do not reflect the volume of cooling water needed by modern Navy vessels.

PSNS & IMF is committed to protecting Sinclair Inlet. Reducing the concentration of copper in our dry-dock discharges will require a multifaceted approach including source control, dry-dock cleaning, and treatment of dry-dock floor runoff. Enclosure (2) is a list of corrective actions that we are in the

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Ser 106.32/0097
MAR 14 2008

process of implementing for each of these areas. We believe these actions will reduce the concentration of copper in our dry-dock drainage system discharges, however, consistent compliance with our loading limits will require a new permit with loading limits reflecting current vessel cooling-water requirements. Our current permit expired in 1999 and we have been working with your agency to develop a new permit with realistic and protective limits. To ensure that this new permit is protective, the Navy has been working cooperatively with your agency and the Washington State Department of Ecology on Project ENVVEST. Project ENVVEST, which stands for ENVironmental inVESTment, is a cooperative project including the Navy, the Washington Department of Ecology, EPA Region 10, and other technical stakeholders for the purpose of developing and demonstrating alternative strategies for protection and improving the ecological integrity of Sinclair and Dyes Inlets and their surrounding watersheds. This project, which is nearing completion, is a detailed study of all sources of copper and other contaminants entering Sinclair and Dyes Inlets. This information will be useful in calculating loading limits that will meet water and sediment quality standards and are within PSNS & IMF's ability to comply.

We look forward to working with you to resolve this problem. Questions or comments regarding this information may be addressed to Mr. Steven Rupp, Code 106.3, at telephone number (360) 476-6009.

Sincerely,



D. J. PETERS
Captain, U. S. Navy
Shipyard Commander

Encl: (1) Summary of Implemented Best Management Practices
(2) Corrective Action Plan

Copy to:
WDOE, NWRO (Water Quality Section)
Mr. Jay Manning, Director-DOE
Ms. Jeannie Summerhays, Director-DOE

5090.7-4

Ser 106.32/0097

Blind Copy to:

106.02

106.3

106.32

107

1141.3

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NRRO

NSRO

NAVSEA 04R (Kopack)

SUMMARY OF IMPLEMENTED BEST MANAGEMENT PRACTICES

Enclosure (1)

SUMMARY OF IMPLEMENTED BEST MANAGEMENT PRACTICES

1. Each dry-dock has a process water collection system (PWCS) that monitors the water running off the dry-dock floor and routes the water to the bay or to the sanitary sewer. The systems originally were designed to divert the "first-flush" of a rain event to the sewer. We have upgraded these systems to monitor turbidity and route the water appropriately.
2. Abrasive blasting takes place in negatively ventilated containments. Air exhausted from these containments is filtered by equipment permitted by the Puget Sound Clean Air Agency. This equipment must contain fabric filters with a minimum particulate control efficiency of 99.4% for particles 0.5 microns or larger.
3. Dry-docks are inspected for cleanliness monthly by an inspector from PSNS & IMF's Environment, Safety, and Health Office. The inspector's findings are corrected and are shared with PSNS & IMF managers.
4. Water from pressure washing or hydroblasting of vessel hulls is collected and treated prior to discharge to the sanitary sewer.
5. When cutting up decommissioned vessels, large hull sections are removed from the dry-dock and moved to an indoor cutting facility for final cutting into recyclable material.
6. Before flooding a dry-dock, it is thoroughly cleaned and inspected by PSNS & IMF's Environment, Safety, and Health Office. PSNS & IMF requires that the PSNS & IMF Environment, Safety, and Health Office sign a document verifying that the dock is acceptable for flooding.
7. Used abrasive blast media is collected and contained to prevent contact with stormwater.
8. Where possible, production work in the dry-dock with the potential for producing contaminants is covered to prevent contact with water.

Enclosure (1)
5090.7-4 Ser 106.32/0097

CORRECTIVE ACTION PLAN

Enclosure (2)

CORRECTIVE ACTION PLAN

1. Source Control. Continue ongoing efforts to evaluate new source control technologies to reduce the amount of uncontained copper-bearing debris generated during exterior hull preservation.
2. Dry-dock Cleaning. Evaluate dry-dock cleaning practices and changes to production schedules to reduce the risk of uncontrolled discharges of pollutants.
3. Collection and Treatment of Runoff - PSNS & IMF is improving the efficiency of the dry-dock Process Water Collection Systems (PWCS) by:
 - a. Modifying our wastewater discharge permit (sewer) to increase the amount of water the PWCSs are allowed to divert to the sewer from 260,000 gallons per day to 400,000. This will reduce the incidences where water that should have been diverted to sewer is allowed to be discharged to the bay. [Completed 1 March 2008.]
 - b. Lowering the turbidity set point at which the PWCS will start diverting water to sewer (made possible by the increased sewer allotment.) [Completed 1 March 2008.]
 - c. Upgrading the capacity of our sanitary lift-station #3. A lack of pumping capacity of this lift-station has interfered with the operation of our dry-dock 6 process water collection system causing us to discharge water to the bay that would otherwise have been diverted to the sewer.
 - d. Implementing PSNS & IMF's requirement that once a vessel is in dock, its cooling water will be diverted from the dry-dock floor as soon as possible. Vessel cooling water must be diverted before we are able to use our PWCS.
 - e. Correcting dry-dock drainage problems to reduce the amount of water bypassing the PWCSs.
4. Complete evaluation of single pass cooling water usage reduction.



DEPARTMENT OF THE NAVY
PUGET SOUND NAVAL SHIPYARD
AND INTERMEDIATE MAINTENANCE FACILITY
1400 FARRAGUT AVENUE
BREMERTON, WASHINGTON 98314-5001

RECEIVED C2

JAN 11 2006

IN REPLY REFER TO:

5090

Ser 106.32/0007

JAN 10 2006

Mr. Michael F. Gearheard
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue, OW-133
Seattle, WA 98101

Dear Mr. Gearheard:

This letter provides Puget Sound Naval Shipyard and Intermediate Maintenance Facility's (PSNS & IMF's) Discharge Monitoring Reports (DMRs) required under the National Pollutant Discharge Elimination System (NPDES) Permit Number WA-000206-2, for the month of December 2005. The DMR's are found in enclosure (1). The PSNS & IMF had two samples from Outfall 18A that exceeded the "daily maximum" limits for copper concentration and loading. These two events also caused an exceedences of the "monthly average" limit for copper concentration and loading.

Upon investigations of the two exceedences we found the following:

The exceedences on December 16 were most likely caused by a spike in the copper-containing debris caused by the initial high flow of cooling water dumping on the dock floor. The weekly sample was taken immediately following changing the cooling water discharge from discharging through a hose to the drainage system to dumping it to the dock floor in preparation for undocking the vessel. Given that we have fairly stringent dock cleanliness requirements in place, it is our belief that this spike was very short lived and did not represent a long-term discharge. As a result of this exceedence, PSNS & IMF management is attempting to identify dock cleanliness improvements to eliminate this problem.

The December 23 exceedences were likely caused by bay silts washed from the dock floor by heavy rain. The bay silt was deposited on the dock floor during the time the dock was flooded following the undocking of a vessel.

Questions or comments regarding this information may be addressed to Mr. Bruce Beckwith, Code 106.32, at telephone number (360) 476-0118.

Sincerely,

A handwritten signature in dark ink, appearing to read 'S. S. Rupp', written in a cursive style.

S. S. RUPP
Head, Environmental Division
Environment, Safety and
Health Office
By direction of the
Shipyard Commander

Encl: (1) Discharge Monitoring Reports for December 2005

Copy to:
WDOE NWRO (Water Quality Section)



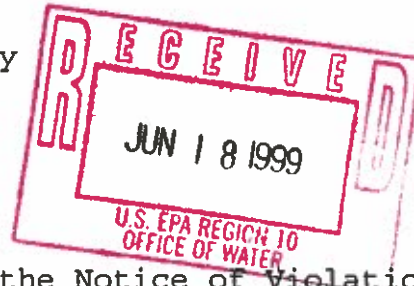
DEPARTMENT OF THE NAVY

PUGET SOUND NAVAL SHIPYARD
1400 FARRAGUT AVENUE
BREMERTON, WASHINGTON 98314-5001

IN REPLY REFER TO:
5090.7-4
Ser 106.31/0208

JUN 17 1999

Mr. Randall F. Smith
U.S. Environmental Protection Agency
Region 10, Attn: OW-133
1200 Sixth Avenue
Seattle, WA 98101



Dear Mr. Smith,

This letter is in response to the Notice of Violation (Notice) received by Puget Sound Naval Shipyard dated May 19, 1999. This Notice was issued based on the Shipyard exceeding copper discharge limits of the Shipyard's National Pollution Discharge Elimination System (NPDES) permit (WA-000206-2).

We are aware of the exceedances and have been proactive in attempting to solve this problem. The Shipyard began working to solve this problem during negotiations of our permit issued in 1994. Over the past five years the Shipyard has consistently reported both our exceedances and corrective actions in our monthly Discharge Monitoring Reports (DMR). This response will summarize both our current attempts and our future plans for addressing this problem.

Finding a solution to this problem has been difficult due to the intermittent nature of the violations. Of the 236 samples taken during the period discussed in your letter (January 1997 through February 1999), 213 of the samples were within the required limits. In fact, 168 of these samples had less than detectable levels of copper.

The Shipyard has committed large sums of money and effort in identifying and eliminating these violations in an era where Navy funding has been significantly cut. Past efforts have focused on identifying the sources of copper, the physical properties of this material, and process changes to control and capture this material. These studies concluded:

1. This copper originates not only from processes within the dry docks, but also from air deposition and bay sediments.
2. The majority of this copper exists as very fine particulate matter, specifically in the micron range. The physical properties of this material preclude using traditional cleaning methods to remove this material from the docks. In addition, the material can not be removed from water using filtration.

JUN 17 1999

3. Many of the violations correlate with periods of heavy precipitation. It appears that these violations are the result of a "first-flush" of pollutants from the dry dock floors.

Based on the above observations, the Shipyard chose to design and install Process Water Collection Systems (PWCS) in each of the dry docks. The purpose of these systems is to divert the "first-flush" runoff from the bay to the sewer. This effort began in October of 1994. The Shipyard has spent 5.6 million dollars on the construction of these systems to date. These systems are now installed, but are not yet operating as designed. We are currently modifying these systems. These modifications include:

1. Separating water from non-industrial sources, such as dock infiltration water, from water draining from the industrial areas of the dock
2. Refining the PWCS control mechanism to better detect water with higher levels of copper
3. Improving the retention capability of sediment traps
4. Improving the methods for removing material collected in the sediment traps

The Shipyard has also implemented a set of EPA approved Best Management Practices (BMPs) as required by our NPDES permit. These BMPs include requiring workers to clean their work areas at the end of each shift and thoroughly cleaning the dry docks before flooding.

The Shipyard has modified its work practices in an effort to limit the copper discharged. These changes include the following work practices.

1. Dry blasting is restricted to fully contained, negative ventilated enclosures. Blasting shot and the removed particulate material are fully recovered. The Shipyard has virtually eliminated the use of copper slag for blasting. The particulate materials from enclosure ventilation and the vacuum recovered shot are routed through separate dedusters to prevent particulates escaping to the atmosphere.

2. Closed-loop hydroblasting is used to remove paint where practical. In this process, extremely high pressure water is used to remove the paint from the hull of the ship, and both the water and paint chips are collected by the equipment. The equipment filters the paint from the wastewater and the water is reused.

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Ser 106.31/0208
JUN 17 1999

3. Non-ferrous cutting and metal burning in the dry docks is minimized. These materials are transported to enclosed burn slabs that are negatively ventilated through dedusters.

The Shipyard has been proactive in looking for ways to improve the quality of water of Sinclair Inlet. The actions taken as described above, as well as on-going research on ways to decrease pollutant discharges are of paramount importance to the Shipyard. The Shipyard is currently participating in a congressionally funded, multi-year project to identify, test, and verify the performance of technologies used to recover, recycle, or treat wastewaters. This project includes approximately \$600,000 to study methods of measuring and collecting pollutants from dry docks using real-time sensor technology. Puget Sound Naval Shipyard is committed to eliminating exceedances through the continued use of BMPs, improving our processes, modifying current dry dock capture systems, and pursuing technology to enhance the operability of these installed systems.

The Shipyard would request the opportunity to meet with you in the near future to discuss the specifics of Shipyard dry dock operations. It could be expected that your agency's experience with other industries may be helpful in assisting the Shipyard to evaluate alternative solutions of this problem.

Questions or comments regarding this information may be addressed to Mr. Bruce Beckwith, Code 106.31, telephone number (360) 476-0118.

Sincerely,



D. E. BAUGH
Shipyard Commander

Copy to:
WDOE, NWRO (Water Quality Section)